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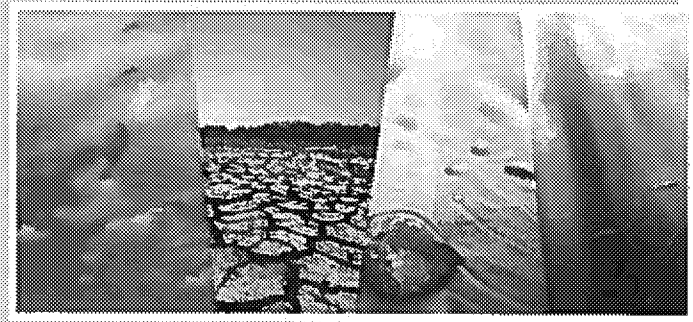
WORK ORDER NUMBER: 14-12-1473

The difference is service



AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For
Client: Beta Offshore
Client Project Name: Elly Produced Water
Attention: Marina Robertson
111 W. Ocean Blvd., Suite 1240
Long Beach, CA 90802-4633

Approved for release on 12/17/2014 by:
Amanda Porter
Project Manager

ResultLink ▸

Email your PM ▸

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Client Project Name: Elly Produced Water
Work Order Number: 14-12-1473

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Work Order Narrative

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Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 12/15/14. They were assigned to Work Order 14-12-1473.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

New York NELAP air certification does not certify for all reported methods and analytes, reference the accredited items here: http://www.calscience.com/PDF/New_York.pdf

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

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Analytical Report

Beta Offshore		Date Received:	12/15/14
111 W. Ocean Blvd., Suite 1240		Work Order:	14-12-1473
Long Beach, CA 90802-4633		Preparation:	N/A
		Method:	EPA 1664A
		Units:	mg/L
Project: Elly Produced Water			Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NPDES Produced Water SO3	**14-12-1473-1-A**	**12/10/14 02:45**	**Aqueous**	**N/A**	**12/16/14**	**12/16/14 18:00**	**E1216HEML1**

Parameter	Result	RL	DF	Qualifiers
HEM: Oil and Grease	13.3	1.00	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-05-119-3781**	**N/A**	**Aqueous**	**N/A**	**12/16/14**	**12/16/14 18:00**	**E1216HEML1**

Parameter	Result	RL	DF	Qualifiers
HEM: Oil and Grease	ND	1.0	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Quality Control - Spike/Spike Duplicate

Beta Offshore		Date Received:	12/15/14
111 W. Ocean Blvd., Suite 1240		Work Order:	14-12-1473
Long Beach, CA 90802-4633		Preparation:	N/A
		Method:	EPA 1664A
Project: Elly Produced Water			Page 1 of 1

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
14-12-1176-1	Sample	Aqueous	N/A	12/16/14	12/16/14 18:00	E1216HEMS1
14-12-1176-1	Matrix Spike	Aqueous	N/A	12/16/14	12/16/14 18:00	E1216HEMS1
14-12-1176-1	Matrix Spike Duplicate	Aqueous	N/A	12/16/14	12/16/14 18:00	E1216HEMS1

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
HEM: Oil and Grease	ND	40.00	38.60	96	37.10	93	78-114	4	0-18	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

Beta Offshore		Date Received:	12/15/14
111 W. Ocean Blvd., Suite 1240		Work Order:	14-12-1473
Long Beach, CA 90802-4633		Preparation:	N/A
		Method:	EPA 1664A
Project: Elly Produced Water			Page 1 of 1

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-05-119-3781	LCS	Aqueous	N/A	12/16/14	12/16/14 18:00	E1216HEML1
099-05-119-3781	LCSD	Aqueous	N/A	12/16/14	12/16/14 18:00	E1216HEML1

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
HEM: Oil and Grease	40.00	37.60	94	38.40	96	78-114	2	0-18	

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RPD: Relative Percent Difference. CL: Control Limits

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Sample Analysis Summary Report

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Method	Extraction	Chemist ID	Instrument	Analytical Location
EPA 1664A	N/A	29	N/A	1

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Glossary of Terms and Qualifiers

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Qualifiers	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

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Calscience Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

☐ SoCal Laboratory
7440 Lincoln Way
Garden Grove, CA 92841-1427
(714) 895-5494

☐ NorCal Service Center
5063 Commercial Circle, Suite H
Concord, CA 94520-8577
(925) 689-9022

Date 12-10-14

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LABORATORY CLIENT: BETA OFFSHORE

CLIENT PROJECT NAME / NUMBER: Elly Produced Water

P.O. NO.:

ADDRESS: 111 W. OCEAN BLVD. SUITE 1240

PROJECT CONTACT: MARINA ROBERTSON

LAB WORK ORDER: 14-12-1473

CITY: LONG BEACH STATE: CA ZIP: 90802

SAMPLER(S): (PRINT): M Fuller / C. Campas

COELT LOG CODE

COOLER RECEIPT TEMP= °C

TEL: 562.683.3497 E-MAIL: mrobertson@betaoffshore.com

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☒ 48 HR ☐ 72 HR ☐ STANDARD

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING FORMS ☐ COELT EDF ☐ ____

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	FIELD POINT NAME (FOR COELT EDF)	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH (g)	TPH (d) or (C6-C36) or (C6-C44)	TPH (EPA 1664)	BTEX / MTBE (8260B) or (__)	VOCs (8260B)	Oxygenates (8260B)	Encore Prep (5035)	SVOCs (8270C)	Pesticides (8081A)	PCBs (8082)	PNAs (8310) or (8270C)	T22 Metals (6010B/747X)	Cr(VI) [7196A or 7199 or 218.6]	VOCs (TO-14A) or (TO-15)	TPH (g) [TO-3]+ ____			
1	NPDES Produced Water	SD3	12/10/14	2:45 PM	Water	1			X															

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
Matt Fuller MR for M. Fuller	Marina Robertson	12-15-14	2:55 PM
M. Robertson	Danny C ECL	12-15-14	17:47
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

DISTRIBUTION: White with final report, Green and Yellow to Client.
Please note that pages 1 and 2 of 2 of our T/Cs are printed on the reverse side of the Green and Yellow copies respectively.

05/01/07 Revision

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WORK ORDER #: 14-12-[1][4][7][5]

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: Beta Offshore DATE: 12/15/14

TEMPERATURE: Thermometer ID: SC2 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)

Temperature 4.1 °C - 0.2 °C (CF) = 3.9 °C ☐ Blank ☑ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

☐ Received at ambient temperature, placed on ice for transport by Courier.

Ambient Temperature: ☐ Air ☐ Filter Checked by: LS

CUSTODY SEALS INTACT:

☐ Cooler ☐_____ ☐ No (Not Intact) ☑ Not Present ☐ N/A Checked by: LS

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present Checked by: SIZ

SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and good condition	☑	☐	☐
Proper containers and sufficient volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
Aqueous samples received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfides ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation noted on COC or sample container	☑	☐	☐
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	☐	☐	☑
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

Solid: ☐4ozCGJ ☐8ozCGJ ☐16ozCGJ ☐Sleeve (_____) ☐EnCores® ☐TerraCores® ☐_____

Aqueous: ☐VOA ☐VOAh ☐VOAna_2 ☐125AGB ☐125AGBh ☐125AGBp ☐1AGB ☐1AGBna_2 ☑1AGBs

☐500AGB ☐500AGJ ☐500AGJs ☐250AGB ☐250CGB ☐250CGBs ☐1PB ☐1PBna ☐500PB

☐250PB ☐250PBn ☐125PB ☐125PBznna ☐100PJ ☐100PJna_2 ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☐Canister **Other:** ☐_____ **Trip Blank Lot#:**_____ Labeled/Checked by: SIZ

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by: GM

Preservative: h: HCL n: HNO_3 na_2:$Na_2S_2O_3$ na: NaOH p: H_3PO_4 s: H_2SO_4 u: Ultra-pure znna: $ZnAc_2$+NaOH f: Filtered Scanned by: 69

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